

Table of Contents

- LETTER FROM THE EXECUTIVE DIRECTOR 3
 - **OUR IMPACT 4**
- OUR WORK WITH EDUCATORS DURING COVID 6
 - **OUR PEOPLE 16**
 - **FINANCIALS 20**
 - **DONORS 24**
 - **BSCS LEADERSHIP 26**

Letter from the Executive Director

Dear friends.

March 2020 came in like the proverbial lion at BSCS. We were in the midst of launching field tests for instructional materials, new programs for teacher professional learning and leadership development, and data collection in classrooms for research projects.

Then, everything changed. Like everyone else, we had to adapt to the challenge of remote teaching and learning. And yet, our year still had plenty of success stories. We've decided to share some of them in this annual report. I think you will find that these stories speak to BSCS's strengths.

To highlight a few of these strengths right here ...

We have a staff who have an amazing commitment to our mission. Throughout the pandemic, they consistently did whatever it took to advance science teaching and learning.

We offer amazing materials and programs. They engage teachers and students as learners, and they support learning so well that they succeed when other approaches are failing.

We are already anticipating the future. We were able to quickly shift activities online in 2020 because we have been exploring for a while now the use of technology to bring powerful learning to remote and under-resourced environments.

And we have the great grantors and donors in our corner who share our mission and demonstrate their confidence in us through their support.

As you review this report, I hope you feel as proud, optimistic, and inspired as I have felt seeing our team adapt and continue to make a difference in the most trying of times. Thank you for your continued support.

Sincerely,

Daniel C. Edelson, PhD

BSCS Science Learning

A nonprofit established in 1958

OUR IMPACT ON THE WORLD

We believe science education can change the world. Our research-based programs are designed to prepare all young people to tackle 21st century challenges.



PERSONAL & CIVIC LIVES

Individuals are faced with decisions in their everyday lives that can have big personal and societal implications. Today's students need a scientific understanding to navigate false narratives in the media, health concerns, and everything in between.



SOCIAL & ENVIRONMENTAL JUSTICES

Injustices are pervasive. Science can be used to cause or reduce harm, and today's students need to learn how to use science to create a just world.



CAREERS

Analytical thinking is essential for any career path. We need to be sure that all students, regardless of background or zip code, have science learning opportunities that will help them develop the skills they need to thrive in both STEM and non-STEM fields.

Today, we are bringing students, teachers, and leaders the science learning opportunities they need most by translating research into practical programs.

Our work is focused on three areas:



We develop interactive materials that change how diverse student populations engage with and apply science throughout their lives.



We provide effective programs that significantly improve science teaching and student outcomes in science.



We offer programs that support schools, districts, and states in transforming science education systems.

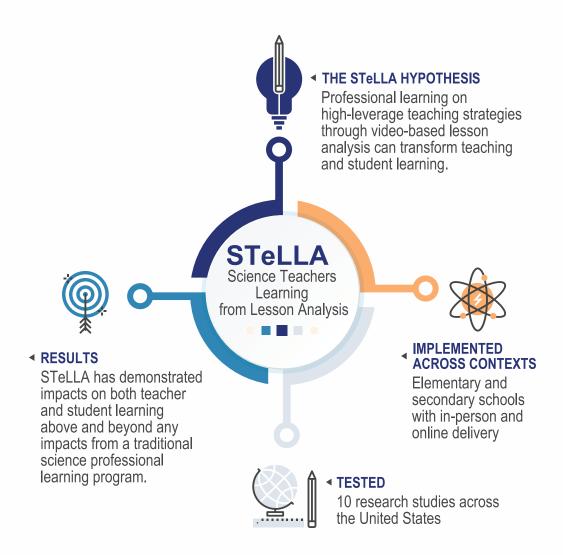
STeLLA Work with Educators during COVID

In early March 2020, Sue Kowalski and Jody Bintz were eagerly overbooking themselves in pursuit of impact, as usual. Their summer schedules were set. And their teams were gearing up for about 200 collective hours of immersive professional learning work with teachers and leaders across the country.

Specifically, 130 teachers and leaders across 40 districts nationwide were signed up to participate in our research-based professional learning program, STeLLA® (Science Teachers Learning from Lesson Analysis).

We planned to roll out new online and hybrid versions of STeLLA over the summer that were designed to be accessible to broad audiences, including STeLLA Online Research Study, STeLLA for A Medical Mystery, and STeLLA Scale-up & Sustainability Study.

Our goal was to significantly improve teaching practice and student achievement in science across contexts. The following pages include a snapshot of this work. STeLLA supports teachers using effective teaching strategies through a powerful video-based lesson analysis approach. K-12 educators who want to implement research-based curriculum and improve their teaching have something to gain from this proven program. So do their students. Learn more at bscs.org/STeLLA.



STeLLA Online Research Study

All things considered, Sue Kowalski had many good reasons to remain calm and positive as her *STeLLA Online* summer institute approached. First, the entire professional learning program was virtual, so her team could safely connect with teachers over the summer months ... and surely they'd have no problem collecting data in classrooms by the time fall rolled around. Second, she had assembled a dream team of colleagues (veterans and novices), collaborating to bring this new online version of STeLLA to 30 elementary teachers across the country. And perhaps most importantly, the teachers were excited to get started.

The summer institute was a success. Even though they had just come off of a tough spring of remote teaching, the teachers were hungry for high quality professional learning, and they were active, eager participants in the online sessions.

According to Amy Belcastro, check-ins were key. The very human, personal conversations at the start of every session provided a chance to build community and connection.

Tyree Jordan, a teacher in Nashville, referred to this community as his "island of sanity."

As the pandemic intensified, the team seriously considered pulling the plug on the fall research study. But teachers wanted to keep going ... so they did. It was a stressful semester. Several teachers navigated new roles and hybrid or online classroom settings. One teacher even had to record her science lessons in advance because her district allowed live interaction only for math and ELA classes.

"And yet, the teachers kept coming to our study groups," recalls Guy Ollison. "We found a way to all stay in the moment with each other and focus on what was important. We were offering something that we all needed."

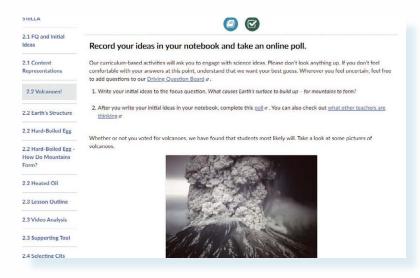
Teachers' commitment paid off.

Sue and Connie Hvidsten have analyzed hundreds of STeLLA classroom videos over the years. They know what good teaching looks like. And that's what they saw in the *STeLLA Online* videos.

The secret to success during the most chaotic year in education? Connie attributes it to one word: flexibility. The *STeLLA Online* team gave themselves and their teacher participants intentional permission to think outside the box and accomplish whatever was realistic in these challenging times.

And according to Sue, "When you have dedicated teams of leaders and teachers who are equally invested in student learning, you can accomplish so much. While the results of the study won't be available until later in 2021, we believe the teaching we saw in these videos will translate to improved student outcomes."

STeLLA Online will be widely available to elementary educators in 2022.



STeLLA for A Medical Mystery

Middle school students across the country were actively investigating the question "What's wrong with M'Kenna?" when schools shut down. Teachers like Judy Barrere in Seattle were big fans of BSCS's new body systems unit, *A Medical Mystery*, which challenges students to solve why their peer M'Kenna is sick.

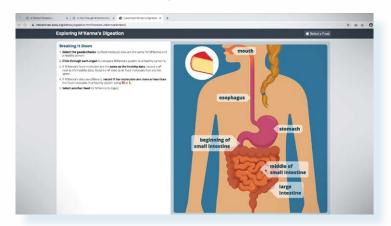
The digital unit is NGSS aligned, engaging, and effective--and Judy felt well prepared to use it after learning STeLLA teaching strategies in a BSCS professional learning program. But teaching the unit in a remote setting wasn't part of the plan, and she was nervous.

Sue Kowalski's team responded immediately. During the initial shut down, they developed a professional learning guide to support teachers in remotely enacting the unit.

Judy was "very unsure of how [she] would transfer *A Medical Mystery* to online learning," but she rose to the occasion. All students at her school completed a survey at the end of the year asking what went right and what went wrong across all online learning.

A Medical Mystery had the most positive responses in that survey.

As of summer 2020, BSCS now offers ongoing *STeLLA for A Medical Mystery* professional learning institutes to support the enactment of the freely available curriculum unit.



STeLLA Scale-Up & Sustainability Study (SSUP)

May 20, 2020, was a disappointing day for the SSUP team. After months of work developing and designing a new hybrid version of STeLLA, the team had no choice but to cancel the in-person summer institute for teachers and leaders across Kentucky and Tennessee. The plan was to introduce all participants to STeLLA teaching strategies that summer and then study the effectiveness of the hybrid model on teacher and student outcomes throughout the following school year. The work with teachers would have to wait. But Jody Bintz was determined to keep leaders engaged throughout the pandemic as they would be crucial partners in ensuring the long-term sustainability of this new, more-accessible version of STeLLA.

Susan Gomez Zwiep recalls the key question the team wrestled with on May 21: How can we build community in an online setting among leaders who have never met in person and are dealing with stress in their districts, schools, and homes right now? "Rescoping and resizing this leadership program was the biggest lift," Amy Belcastro adds. "We were essentially starting from scratch."

The virtual kickoff meeting in June was exhausting but effective. As one leader shared, "You all incorporated just the right amount of information and kept the engagement level incredibly high--there was no room to hide!" The virtual sessions continued over the following months, with growing enthusiasm for the work and community.

Jody will be the first to say this was a difficult year for the SSUP professional learning team. But it was also a blessing. "We had a dedicated, intensive year with leaders and more time to develop program materials for teachers," she stated. "This is all going to pay off when our study begins next summer."

Field Test Work with Educators during COVID

At the start of 2020, we were in the process of developing two major programs to address a national need for high quality, middle and high school science instructional materials. Lindsey Mohan explains that to achieve this quality, we rigorously field-test our materials in a variety of classroom settings--especially in schools with underserved populations. And that's exactly what we planned to do in the spring for both the *OpenSciEd Middle School Science* program and *BSCS Biology: Understanding for Life*.

When schools shut down, priorities shifted from achieving rigorous academic learning goals to responding to a humanitarian crisis. There were students who relied on free and reduced lunches at school. There were students without access to the internet and computers at home. The ugly realities of inequities in schools and communities became more evident than ever. But district and school leaders stepped up to provide emotional and financial support to students and their families.

Our priority at BSCS was to do what we could to support teachers. The following pages include a snapshot of this work.





OpenSciEd

"We figure things out together" is one of the core values of the *OpenSciEd Middle School Science* program. It reflects the developers' vision for how students will engage in science class. And according to Abe Lo, this value was also the pin that held the entire OpenSciEd community of developers and 23,000+ educators together in 2020.

Middle School Science Program

While our spring field test was postponed, we continued to interact with teachers using OpenSciEd units in their remote and hybrid classrooms. Teachers from all over the country came together to share resources. We're talking full Google classrooms, electronic science notebooks, videos of investigations, and best practices for engaging students in remote settings. This nationwide outpouring of resources was inspiring. It also influenced how our writers develop new units. The complete *OpenSciEd Middle School Science* program for grades 6-8 will be freely available in 2022.

Funders: Carnegie Corporation of New York, Bill and Melinda Gates Foundation, Charles and Lynn Schusterman Foundation, and the William and Flora Hewlett Foundation

COVID-19 & Health Equity Units

As the pandemic intensified, BSCS led the rapid development of *COVID-19 & Health Equity* units for middle and high school. Thousands of teachers and students downloaded field-test versions of the units to investigate how viruses are spread and the implications of the COVID-19 pandemic on communities, particularly communities of color. Through field tests, we learned that the highly relevant and engaging nature of these units helped build a sense of community among teachers and students. Final versions of these units will be freely available in 2021. They are designed to deepen science and social emotional competencies and to be relevant even as the pandemic wanes.

Funder: Anonymous



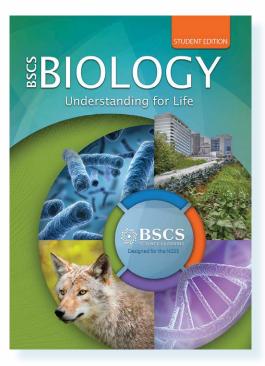


BSCS Biology: Understanding for Life

After teaching high school biology for 30+ years, Cindy Gay is now co-leading the development of BSCS's most powerful biology program yet. She also happens to be one of our go-to professional learning facilitators. So we feel fortunate that she was at the helm of our field test this year for *BSCS Biology: Understanding for Life*.

Cindy was buzzing with excitement in February 2020. The kick-off institute with her field-test teachers in Oakland, California, had gone so well! Teachers couldn't wait to use our new units to investigate compelling phenomena (including infectious diseases, ironically) with students that spring. And we couldn't wait to see how students would respond to the material.

Of course, we'd all have to wait. Oakland shut down in March, and the district transitioned to remote learning. Leaders and teachers primarily focused on what was most important: students' well-being. And as they did everything they could to "make school happen" for students with limited access to resources, we did everything we could to support teachers who still wanted to work with us.



BSCS Biology: Understanding for Life will be widely available to districts and schools by 2022. By the time the second phase of the field test rolled around in the fall, we were surprised by just how many teachers wanted "in" even though it was now fully online. One benefit to an online format was that it allowed us to expand the field test beyond Oakland. By August, Cindy was as ready as she'd ever be to virtually support teachers in Oakland, Oak Park and River Forest, and nearly a dozen other districts across the country. She led a series of professional learning institutes for teachers who were enacting two units in face-to-face, remote, and hybrid classrooms that fall.

There were plenty of challenges, but this experience only reinforced Cindy's belief that teachers are amazing. "Teachers do what they have to do," she said. "They are incredibly creative and able to pivot. They were tired, but they persevered under the most trying of circumstances."

We say the same thing about Cindy. And thanks to her, we were able to support teachers while collecting invaluable student and teacher data to inform our revision process.

The unit is very relatable to students because we've all experienced illness. I have not had one student ask why we need to know this. I actually had a student that went to a doctor who ran the same immune response tests we had learned about. My student felt good about understanding what the doctor discussed.

-Faith Nelson, high school biology teacher in Oak Park, IL

Get to Know Some of Our Newest Difference Makers

2020 was a year of growth for BSCS. We hired several new staff members into both short-term and regular positions to help us build on prior work.



JENINE COTTON-PROBY

BSCS Role: Science Educator (Professional Learning)

Homebase: Waldorf, MD

Life before BSCS: I served as a high school chemistry teacher in the school district in which I was a student growing up. I taught International Baccalaureate, Advanced Placement, college prep, and co-teaching chemistry, as well as many other science disciplines at least once.

Why BSCS: In my previous district, I mentored new teachers in our school and enjoyed working with our high school science leadership team to lead professional learning to help teachers in our district make sense of Next Generation Science. I was able to participate in two professional learning experiences with BSCS, which confirmed how much more there was to learn about effective science teaching and learning. I was even more encouraged by BSCS's commitment to equity and social justice.

Fun Fact: I have varying interests: being a tech junkie, growing plants, creating art, doing calligraphy, and experiencing the culture and museums of the Washington, DC, area.



COLIN DIXON

BSCS Role: Research Scientist Homebase: Oakland. CA

Life before BSCS: I've been an educator and researcher working in various settings, like youth bike shops, community science projects, and makerspaces, where young people are learning about and making things for themselves and others to use.

Why BSCS: I am really impressed by BSCS's history of high-impact work in science education, its current team of researchers and educators who are energetic and really grounded in how students experience learning, and the approach that BSCS is taking to addressing equity in education and society.

Fun Fact: I work with my family to farm olives and mill olive oil.



SUSAN GOMEZ ZWIEP

BSCS Role: Senior Science Educator (Professional Learning) Homebase: Long Beach, CA

Life before BSCS: I started my career in education teaching 7th-8th grade science in the Los Angeles area before moving onto a faculty position in science education at California State University, Long Beach.

Why BSCS: To me, BSCS represents innovation and creativity related to science learning. I wanted to be in a place where people love science, support learning, and seek out collaboration.

Fun Fact: Our current house came with a gang of box turtles that roam our backyard. The current count is 8 turtles. They are mostly wild, except they have been known to enter the house looking for bananas.



CHARLOTTE HARDWICKE

BSCS Role: Project Coordinator and Assistant to Associate Director Homebase: Colorado Springs, CO

Life before BSCS: I lived in Charlottesville, Virginia, where I worked in the School of Medicine at the University of Virginia.

I love that BSCS is working to shift the narrative and make science education equitable and accessible to all students and educators.

Fun Fact: I love cycling, climbing, and paddling, so Colorado is a great place to live!



SHERRY HSI

BSCS Role: Principal Scientist Homebase: Berkeley, CA

Life before BSCS: I have directed design-oriented R&D in science centers and K-12 nonprofits, including the Lawrence Hall of Science, Concord Consortium, and the Exploratorium.

Why BSCS: BSCS is committed to bringing high quality science education to everyone. It has an active equity and social justice initiative. And, I love growing and learning so much from everyone here.

Fun Fact: I play classical violin and used to play in a string quartet at weddings and bar mitzvahs.



JANNA MAHFOUD

BSCS Role: Science Educator (Professional Learning) Homebase: Phoenix, AZ

Life before BSCS: I was the Science and Engineering Specialist for a K-8 school district in Phoenix. I have also taught 5th-8th grade science in Hawai'i, California, and Arizona.

Why BSCS: I appreciate BSCS's laser focus on elements that actually transform science teaching and learning in K-12 classrooms. I also continue to be inspired by BSCS's commitment to equity and social justice through high quality instructional materials, professional learning, and leadership development.

Fun Fact: I love to travel! I once took five months to hop around the globe visiting nine different countries.



GUY OLLISON

BSCS Role: Science Educator (Professional Learning)

Homebase: Sacramento, CA

Life before BSCS: I taught middle school science for over 20 years at an underresourced school in South Sacramento. I was also a science mentor for aspiring teachers for a program called Breakthrough Sacramento. That program serves students from lowincome families who are motivated to attend college.

Why BSCS: After being a part of several BSCS projects and piloting materials, I appreciated the way science teaching and learning was conceptualized here. I also enjoyed the collaborative nature of curriculum development I saw, particularly the emphasis on having community stakeholders as an essential part of the process. BSCS was (is) a place I believed would help further my own growth and learning.

Fun Fact: I enjoy playing African drums, hiking, and, at one time, writing and reciting poetry.

As an

INDEPENDENT NONPROFIT

we rely on grants and donations to tackle the toughest challenges in science education.

· 2020 ·



\$4,158,748



\$186,712



\$4,513,954



YOUR DONATIONS

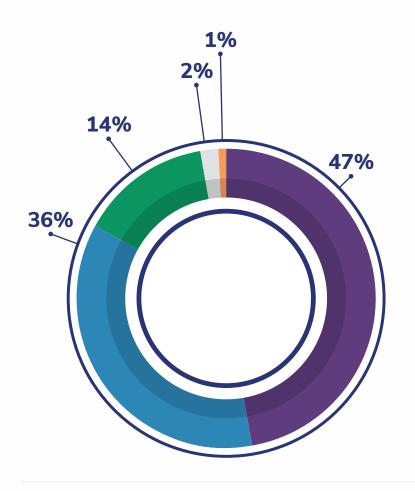
support teachers and students nationwide

\$49,931

Financial Activity and Assets 2020

	Unrestricted	Donor Restricted	Total
Operating Revenues			
Federal and State	4,158,748		4,158,748
Foundation	3,238,569	505,216	3,743,785
Schools/Universities	186,712		186,712
Other Contracts	1,275,385		1,275,385
Royalties/Sales/Participant Fees	(75,503)		(75,503)
Total Operating Revenue	8,783,911	505,216	9,289,127
Operating Expenses			
Program Services	8,460,081		8,460,081
General and Administrative	1,990,984		1,990,984
Marketing and Development	53,682		53,682
Total Operating Expenses	10,504,747		10,504,747
Operational Revenue Less Expenses	(1,720,836)		(1,215,620)
Nonoperational Income			
Contributions and Public Support	49,931		49,931
Investment Income - net	341,236		341,236
*Gain on extinguishment of debt	701,637		
Satisfied Program Restrictions	506,391	(506,391)	-
Total Nonoperational Income	1,599,195	(506,391)	391,167
Net Assets			
Change in Net Assets	(121,641)	(1,175)	(122,816)
Net Assets Beginning of Year	1,832,762	1,888,148	3,720,910
Net Assets End of Year	1,711,121	1,886,973	3,598,094

^{*}Extinguishment of Debt: BSCS received a Paycheck Protection Loan in 2020. The loan permitted BSCS to maintain staffing during project delays due to COVID-19 and has been forgiven by the Small Business Association.



- Federal Agencies
- Foundations/Businesses/Nonprofits
- Other Contracts
- Schools/Universities/States
- Royalties/Sales/Participant Fees

FEDERAL AGENCIES

National Institutes of Health
National Oceanic and Atmospheric Administration
National Science Foundation
U.S. Department of Agriculture
U.S. Department of Education

FOUNDATIONS/BUSINESSES/NONPROFITS

Carnegie Corporation
George Lucas Educational Foundation
Gordon and Betty Moore Foundation
Kendall Hunt Publishing Company
National Center for Civic Innovation
Pisces Foundation

SCHOOLS/UNIVERSITIES/STATES

Arizona Science Teachers Association
Arvada West High School, CO
Denver Public Schools, CO
Friends Academy, NY
Jefferson County Board of Education, Louisville, KY
Nebraska Department of Education
New Mexico Northwest Regional Education Cooperative
University of Florida EQuIPD Program

ADDITIONAL FUNDING FROM ROYALTIES/SALES/PARTICIPANT FEES

Generous Support

HEROES (15+ YEARS)

Jeff and Jody Bintz

Mark Bloom

Janet Carlson in honor of Aleigh Raffelson

Martha Carter

Maxine and M. L. Denniston

April L. Gardner

Timothy and Mary Helen Goldsmith

James Hook and Wen Chyi Shyu

Ted Lamb and Michelle Slattery

Nancy Landes and Joseph Loomer

Stacey Luce

Douglas T. Lundberg

James Manhart

Carlo and Ellen Parravano

Eugenie Scott and Thomas Sager

Betty Stennett

Molly and Jarrod Stuhlsatz

David and Renée Touchette

Pam Van Scotter and Bruce Hurd

Anne Westbrook

STEADFAST SUPPORTERS (5–14 YEARS)

Randall and Kathrine Backe

James and Dorothy Barufaldi

Hilda Borko

Michael Borowitz and Barbara Crain

Zoë Buck Bracev

Richard and Amy Cardullo in honor

of the entire BSCS staff

Stewart Chun and Diane Sakumoto

Jan and Lynn Dash

Daniel and Vivian Choy Edelson

Cindy and Ken Gay

Nicole Gillespie

Louis and Kim Gomez

Jeffrey and Judy Gough

Philip and Ellen Goulding

Connie Hvidsten

Mary Kiely and Kurt Bausback

Susan Kowalski and Manuel Rendon

Rebecca Kruse

Jane Larson

Thomas and Carol Marlowe

Audrey Mohan

Roger and Constance Olstad

James Pellegrino and Susan Goldman

Dennis Schatz and Leila Wilke in memory of

Alan Friedman

Richard and Patti Shavelson

Ronald Somerby

Brenda Speer and Greg Ward

James and Christine Stolzenbach

David and Florence Stronck

Dan and Barbara Suratt

Thomas and Valerie Wheeler

Christopher D. Wilson

Howard and C. K. Winet

SUPPORTERS (1–4 YEARS)

Anonymous

Philip Bell

Rodolfo Dirzo

John and Carmen Edelson

Dr. Carol Fortino in honor of Rodger Bybee

Alexandra Fuentes

Ann Goldman

Theresa Greis

Brenda Hale

Craig Heller

Ruth and Ted Kassinger

Heather Kluk in memory of Bill Nixon

Heidi Levin in honor of Danny Edelson

Thomas Lippert

Valerie and Anthony E. Maltese, Jr.

Michael and Andrea Manship in honor of Dr. Fauci

James Minstrell in honor of Arnold Arons

Megan Mistler in honor of Janet Carlson

Lindsey Mohan and John Hawkins

Jeffrey Murray and Ann Marie McCarthy in honor

of Mr. Pine

Jillian S. Nickerson

Lauren Novo in honor of Mr. Scott Joyce

Rob Richard

Nathan Root

* Kevin Ryan and Pascaline Servan-Schreiber

* Monica Sircar and David Remahl

Jeffrey and Lindsay Snowden

Cathie Stimac

Herman and Joan Suit

Carmen and Michael Thiel

Stephen Traphagen and Julie Minbiole

Beniamin Walter

Bill Warren

* = Major Donor (gifts over \$5,000)

Board of Directors

Philip Bell, PhD

Professor, Shauna C. Larson Chair in Learning Sciences, College of Education, University of Washington

Hilda Borko, PhD

Professor, Graduate School of Education, Stanford University

Richard A. Cardullo, PhD (Chair)

Howard H Hays Jr. Chair, Faculty Director of University Honors, Associate Vice Provost, Undergraduate Education, Professor, Department of Biology, University of California, Riverside

Rodolfo Dirzo, PhD

Bing Professor in Environmental Science, Senior Fellow at The Woods Institute for the Environment, Department of Biology, Stanford University

Alexandra Y. Fuentes, MEd

Program Manager STEAM Integration, Fairfax County Public Schools

Nicole Gillespie, PhD

Executive Director, Knowles Science Teaching Foundation

Larry Gold, PhD

Professor, Department of Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder

Louis M. Gomez, PhD

Professor, Graduate School of Education and Information Studies, University of California, Los Angeles

H. Craig Heller, PhD

Professor, Department of Biology, Stanford University

Mary L. Kiely, PhD

Senior Academic and Research Program Officer (retired), Stanford University

Nathan Root, MS

Head of Product Management, Zurich North America

Dennis Schatz, MS

Senior Vice President for Strategic Programs, Pacific Science Center

Stephen Traphagen, MEd (Vice Chair)

Science Teacher, Oak Park & River Forest High School

William Warren

Associate Vice President for Institutional Partnerships, The Catholic University of America Emeritus

Bruce Alberts, PhD

Professor Emeritus, Biochemistry and Biophysics, University of California, San Francisco

Management Team

Daniel Edelson

Executive Director

Jody Bintz

Associate Director for Strategic Partnerships and Professional Learning

Susan Gomez Zwiep

Senior Science Educator

Susan Kowalski

Division Director, Research

Lindsey Mohan

Division Director, Instructional Materials

Lauren Novo

Director of Communications and Advancement

Aleigh Raffelson

Executive Office Manager

Rob Smariga

Director of Operations and Finance

Molly Stuhlsatz

Assistant Director

Chris Wilson

Division Director, Research

CORPORATE OFFICERS

Daniel Edelson

President

Lauren Novo

Secretary

Robert Smariga

Treasurer

Jody Bintz Vice President

Susan Kowalski

Vice President

Christopher Wilson

Vice President

